

Delaware River Basin



Delaware River Watershed Facts

- Nearly 15 million people (about 5% of the U.S. population) rely on the waters of the basin
- Drains 13,539 mi² , or 0.4 of 1% of the continental U.S. land area
- 216 tributary streams



Delaware River

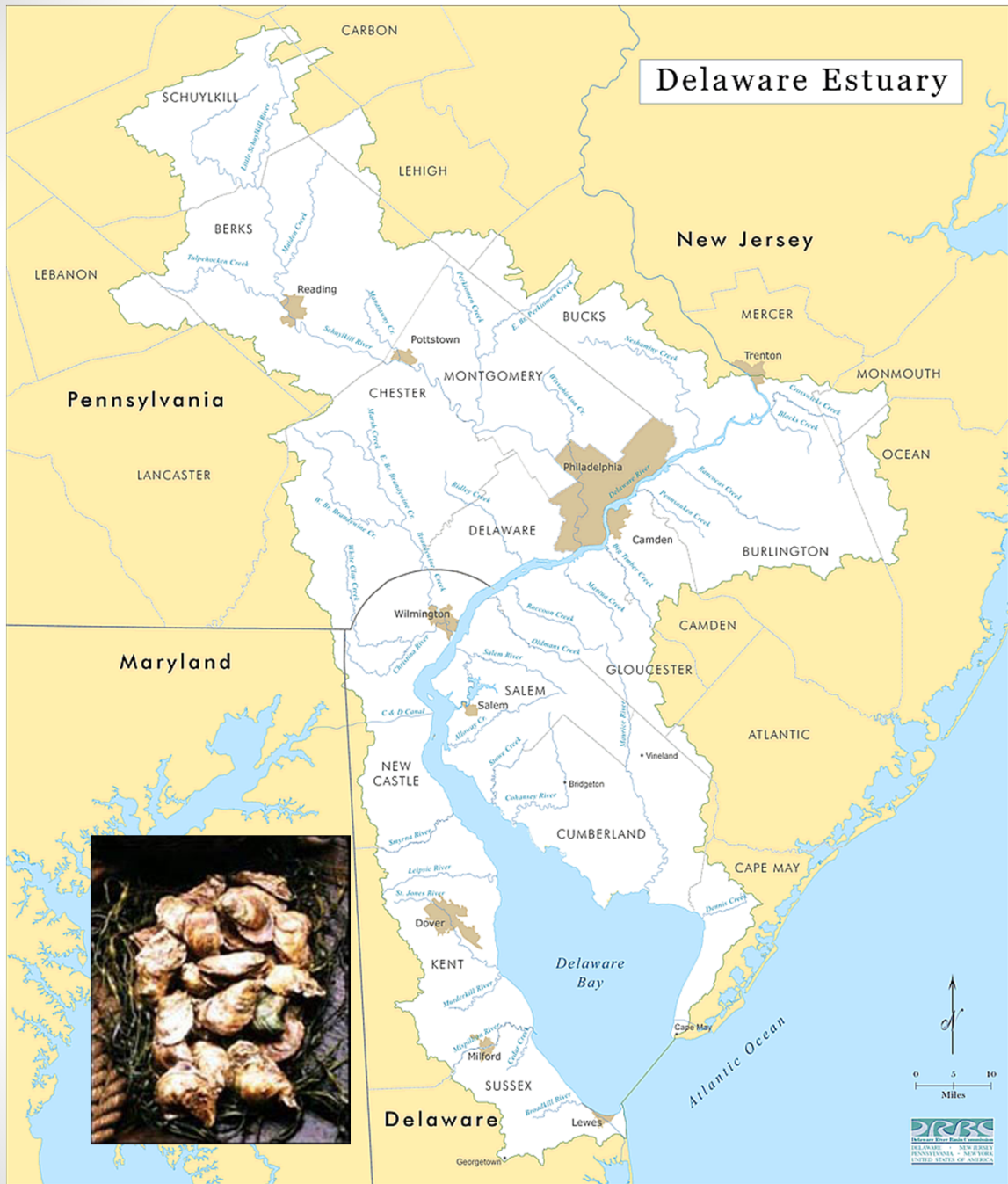
The Delaware is the longest, un-dammed river east of the Mississippi.





The Delaware River begins its 330-mile (531-kilometer) odyssey to the Atlantic Ocean near Hancock, New York, where the West Branch of the Delaware joins the East Branch.



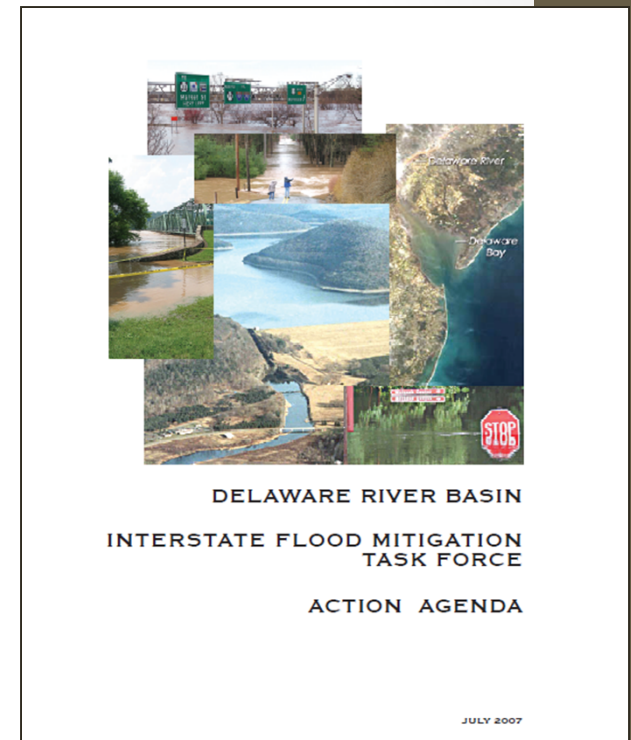


The Delaware Estuary -- the tidal portion of the river including the Delaware Bay -- begins at Trenton and stretches approximately 130 miles or 209 kilometers.



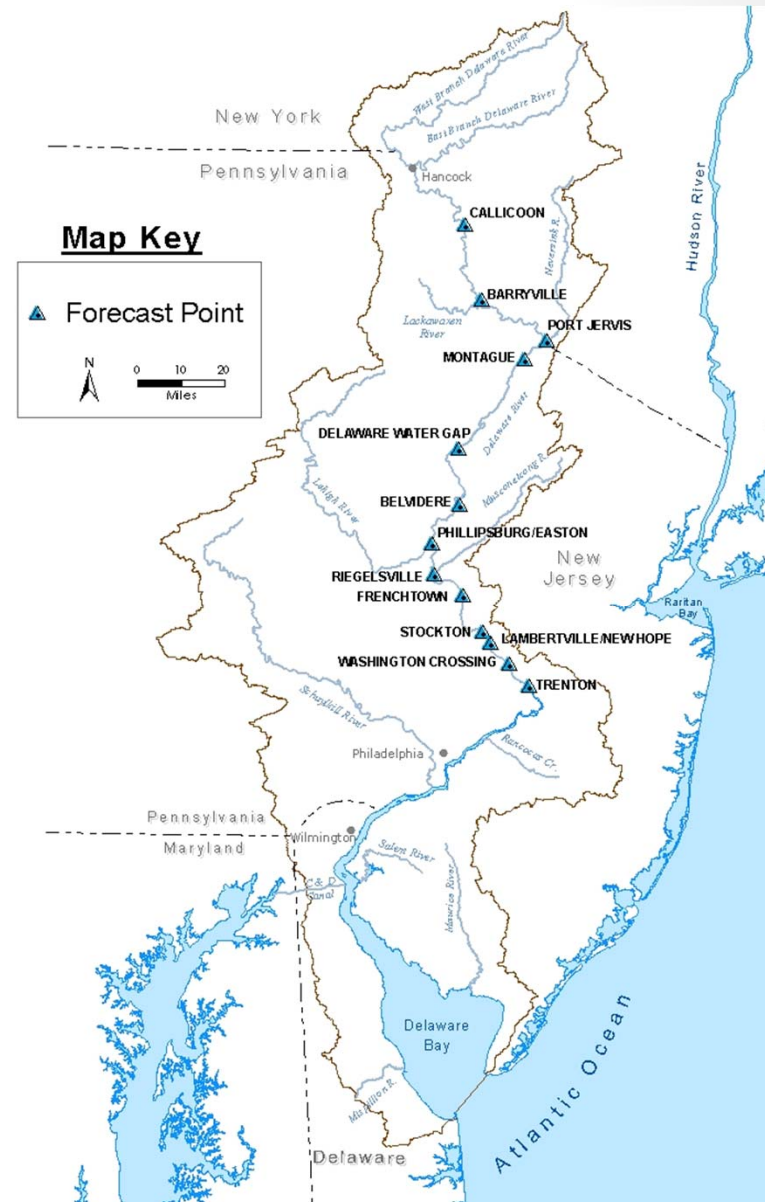
Delaware River Enhanced Flood Warning System

- Goal: To implement Flood Warning recommendations of the Interstate Flood Mitigation Task Force.
- Partners: National Weather Service (NWS), United States Geological Survey (USGS), & Delaware River Basin Commission (DRBC)
- Has been supported by the DRB Congressional Task Force:
 - FY08: \$235,000
 - FY09: \$235,000
 - FY10: \$200,000



Inundation Mapping

- Flood Inundation Maps are being prepared for 9 NWS River Forecast locations along the Delaware River main stem.
- Maps provide information on the spatial extent and depth of flood waters.
- U.S. Army Corps of Engineers, Philadelphia District developed mapping. NWS will provide the mapping online through the Advanced Hydrologic Prediction Service (AHPS).
- Recommendation FW-9



Inventory and Evaluation of Existing Precipitation and Stream Gage Networks

- Flood Warning Improvement Recommendations for the Delaware River Basin – 2009 NWS Report
- This report created updated gage inventories and lists a series of specific steps necessary for improvement of the gage network and expansion of flood forecasting services.
- Recommendations FW-1, FW-2, FW-7

Gage Hardening

- Flood harden, raise and reinforce 5-7 streamflow gaging stations above historic flood levels.

- Recommendation FW-4

FY08 funds:

01428500 Delaware R above Lackawaxen at Barryville, NY

01427510 Delaware R at Callicoon, NY

FY09 funds (3-5):

01436690 Neversink River at Bridgeville, NY

01417500 E. Br Delaware River at Harvard, NY

01413500 E. Br Delaware River at Margaretville, NY

01423000 W. Br Delaware River at Walton, NY

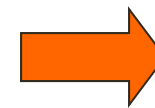
01420500 Beaverkill at Cooks Falls, NY (partial)



Before
Flood



Barryville Gage Photo credit: Tom Suro, USGS-NY



After
Flood



HWM

Flash Flood Forecasting Improvements

- Current flash flood forecasting compared radar rainfall to River Forecast Center (RFC) Flash Flood Guidance (FFG).
- This new technique uses output from a distributed hydrologic model (DHM).
- Can be applied to both gaged and ungaged locations. Exploring options for its use in the upper Delaware River Basin.
- Evaluates both localized runoff and routed components of flash flood generation.

DRBC Website:

http://www.nj.gov/drbc/Flood_Website/flood-warning/index.htm

DRBC -Delaware River Basin Enhanced Flood Warning System - Windows Internet Explorer

http://www.state.nj.us/drbc/Flood_Website/flood-warning/index.htm

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**DELAWARE RIVER BASIN
ENHANCED FLOOD WARNING SYSTEM**

The [Delaware River Basin Interstate Flood Mitigation Task Force](#) issued a report in July 2007 identifying recommendations for a proactive, sustainable and systematic approach to flood damage reduction. This report was commissioned at the request of the four basin governors, as funds are allocated, the recommendations contained in the agenda will be systematically implemented. One of the six priority management areas identified by the Task Force was enhancing the basin's current flood warning system.

Effective flood warning is critical to minimize the loss of life and property during flood events. Continued enhancement of an advanced basinwide flood warning system will lead to improvements of the timeliness and accuracy of the flood forecasts and warnings in the basin.

Highlighted below are some of the projects that are either ongoing or have been completed as part of the Delaware River Basin Enhanced Flood Warning System. More project information will be added as it becomes available.

[Inventory and Evaluation of Existing Precipitation and Stream Gage Networks & Flood Warning Improvement Recommendations for the Delaware River Basin \(FW-1, FW-2, FW-7\)](#)

Flood Warning Improvement Recommendations for the Delaware River Basin - Year 1 Report

Prepared by NOAA/National Weather Service – Eastern Division
In Cooperation With The United States Geological Survey And the Delaware River Basin Commission

This report recommends a set of actions for improving river flood forecasts and warnings in the Delaware River Basin. The report presents the results of work to address Recommendations FW-1.1, FW-2, and FW-7.2 of the Interstate Flood Mitigation Task Force Action Plan. The three Task Force recommendations focused on updating precipitation and stream gage inventories, evaluating the basin's river flood warning network, and recommending steps to address deficiencies and improve flood warning services. This report summarizes the updated gage inventories and lists a series of specific steps necessary for improvement of the gage network and expansion of flood forecasting services.

The project was completed under direction of National Oceanic and Atmospheric Administration (NOAA)'s National Weather Service (NWS) – Eastern Region Headquarters, Hydrologic Services Division, and the report was written through NOAA contract support to the Eastern Region Headquarters. The updated stream gage inventory was completed by support contractors and coordinated with the U.S. Geological Survey Water Science Centers in Delaware/Maryland, New Jersey, New York, and Pennsylvania. The updated precipitation gage inventories and flood warning network evaluations were completed by the Middle Atlantic River Forecast Center at State College, PA, and the Weather Forecast Offices at Binghamton, NY and Mt. Holly, NJ, and coordinated through the support contractors.

- ▶ [Flood Warning Improvement Recommendations for the Delaware River Basin: Year 1 Report \(1 MB\)](#)
 - ▶ [Stream Gage Inventory \(870 KB**\)](#)
 - ▶ [Precipitation Gage Inventory \(100 KB**\)](#)

Flood Inundation Maps (FW-9, FW-11)

Internet 90%

Delaware River Basin Flood Advisory Committee

- The FAC was established in 1999. The committee meets quarterly.
- Whereas, numerous organizations within the Delaware River Basin share flood loss reduction responsibilities; and
- Whereas, a Flood Advisory Committee can provide a forum for coordination of activities and promote efficient use of technical and financial resources for the benefit of the Delaware River Basin Community.

Flood Advisory Committee

Members:

- Delaware Department of Natural Resources and Environmental Control
- New Jersey Department of Environmental Protection
- New York Department of Environmental Conservation
- Pennsylvania Department of Environmental Protection
- New York City Department of Environmental Protection
- Delaware Emergency Management Agency
- New Jersey Office of Emergency Management
- New York Office of Emergency Management
- Pennsylvania Emergency Management Agency
- Federal Emergency Management Agency
- U.S. Department of Agriculture - Natural Resources Conservation Service
- U.S. Geological Survey
- National Weather Service
- U.S. Army Corps of Engineers
- National Park Service
- Delaware River Joint Toll Bridge Commission
- Electric Generation Industry (Hydropower and Off-Stream Storage)
- County Water Resources Agency
- Local/County Emergency Management Representatives


DRBC Flood Information Home Page - Windows Internet Explorer

http://www.state.nj.us/drbc/Flood_Website/floodinf.htm

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FLOOD INFORMATION WEB

Delaware River Basin Commission
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PENNSYLVANIA · NEW YORK
UNITED STATES OF AMERICA

"QUICK FIND BY TOPIC" TO HELP YOU NAVIGATE THIS WEB SITE

HIGH FLOOD POTENTIAL? CHECK-OUT THESE LINKS TO STAY INFORMED:

- ▶ [DRBC'S TIPS ON FINDING INFORMATION DURING PERIODS OF HIGH FLOOD POTENTIAL](#)
- ▶ [NATIONAL WEATHER SERVICE \(NWS\) ADVANCED HYDROLOGIC PREDICTION SERVICE \(AHPS\) RIVER RISE FORECASTS:](#)
 - [UPPER BASIN](#) (Includes locations on several tributaries as well as the following points on the Main Stem Delaware: [Callicoon](#), [Barrville](#), [Matamoras/Port Jervis](#), and [Montague](#))
 - [LOWER BASIN](#) (Includes locations on several tributaries as well as the following points on the Main Stem Delaware: [Tocks Island](#), [Belvidere](#), [Easton](#), [Riegelsville](#), [Frenchtown](#), [Stockton](#), [New Hope-Lambertville Bridge](#), [Washington Crossing](#), and [Trenton](#))

***** Please Note:** Flood Inundation Maps are now available for the following gage/AHPS river forecast points: [Riegelsville](#), [Frenchtown](#), [Stockton](#), [New Hope-Lambertville](#), and [Trenton](#). View the [NWS public information statement](#) for more details.

- ▶ [NWS UPPER BASIN INFORMATION \(UPSTREAM OF THE DELAWARE WATER GAP\)](#)
- ▶ [LOCAL FORECAST OFFICE HOME PAGE- BINGHAMTON, N.Y.](#)
- ▶ [RIVER AND FLOOD STATEMENTS](#)

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www.drbc.net